

(A) manufacturing initially a blank to constitute a piston by preliminarily forging along a first prescribed axis, and shaping specific contours on the forged blank to form a preliminarily-shaped piston; (B) at least one subsequent manufacturing step of forging the preliminarily-shaped piston along at least one other second axis for creating additional contours, said piston being formed by two separate forging steps, each of said steps having a different contour along a different axis; and boring through sides of said piston independent of the manufacturing steps (A) and (B) for receiving a sleeveless bolt.

17. A method as defined in Claim 16, wherein said manufacturing step (A) comprises preliminarily shaping said blank along a longitudinal axis of said blank.

18. A method as defined in Claim 16, wherein said blank is a rod-like blank; upsetting the blank to form a skirt, a cavity and a plurality of contours, said contours being shaped onto said skirt along a longitudinal axis of said skirt in vicinities of inner and outer circumferences and of upper and lower faces of said skirt.

19. A method as defined in Claim 18, wherein said additional contours are shaped onto the preliminarily-shaped piston along said other second axis by forging at approximately 90° to said first prescribed axis, said first prescribed axis being a longitudinal axis.

20. A method as defined in Claim 16, wherein the initial manufacturing step (A) along the first prescribed axis and the subsequent manufacturing step (B) along the other second axis are carried out in the same forging tool into which said blank can be heated before insertion.

21. A method as defined in Claim 16, wherein said preliminarily shaped piston has a reducible wall thickness and reinforcements during the subsequent manufacturing step (B).

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and

22. A method as defined in Claim 16, including the step of shaping an integrated skirt in one of the two manufacturing steps onto the preliminarily shaped piston, said skirt being shaped during the subsequent manufacturing step (B).

23. A method as defined in Claim 16, wherein said blank is of steel.

24. A method as defined in Claim 16, including an additional manufacturing step for reforming said piston.

25. A method as defined in Claim 16, including the steps of removing excess material and producing recesses by punching during at least one of the manufacturing steps (A & B) in manufacturing said piston.

26. A method of manufacturing an entire piston for internal-combustion engines comprising the steps of: (A) manufacturing initially a blank to constitute a piston by preliminarily forging along a first prescribed axis, and shaping specific contours on the forged blank to form a preliminarily-shaped piston; (B) at least one subsequent manufacturing step of forging the preliminarily-shaped piston along at least one other second axis for creating additional contours, a said piston being formed by two separate forging steps, each of said steps having a different contour along a different axis; and boring through sides of said piston independent of the manufacturing steps (A) and (B) for receiving a sleeveless bolt said manufacturing step (A) comprises preliminarily shaping said blank along a longitudinal axis of said blank, said blank being a rod-like blank; upsetting said blank to form a skirt, a cavity and a plurality of contours, said contours being shaped onto said skirt along a longitudinal axis of said skirt in vicinities of inner and outer circumferences and of upper and lower faces of said skirt, said additional contours being shaped onto the preliminarily-shaped piston along said other second axis by forging

at approximately 90° to said first prescribed axis, said first prescribed axis being a longitudinal axis, said initial manufacturing step (A) along the first prescribed axis and the subsequent manufacturing step (B) along the other second axis being carried out in the same forging tool into which said blank can be heated before insertion, said preliminarily shaped piston having a reducible wall thickness and reinforcements during the subsequent manufacturing step (B); shaping an integrated skirt in one of the two manufacturing steps onto the preliminarily shaped piston, said skirt being shaped during the subsequent manufacturing step (B), said blank being of steel; an additional manufacturing step of reforming said piston; removing excess material and producing recesses by punching during at least one of the manufacturing steps (A) and (B) in manufacturing said piston. --

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